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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/089,147 | 03/27/2002 | Helmut Kindl | 50815 | 9820 |
| 26474 | 7590 | 04/14/2004 | EXAMINER | PAK, YONG D |
| KEIL & WEINKAUF 1350 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036 | | | ART UNIT | PAPER NUMBER |
| | | | 1652 | |

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|---|-----------------|--------------|
| <i>Supplemental</i> Office Action Summary | Application No. | Applicant(s) |
| | 10/089,147 | KINDL ET AL. |
| | Examiner | Art Unit |
| | Yong D Pak | 1652 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) ____ is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) 1-20 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: ____ . |

DETAILED ACTION

This application is a 371 of PCT/EP00/09912.

The preliminary amendment filed on March 27, 2002, amending claims 3-4, 7-8, 10 and 12-20, has been entered.

Claims 1-20 are pending.

The Restriction Requirement mailed on March 8, 2004 is withdrawn in place of a new Restriction Requirement.

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-4, 6, 8-14 drawn to a nucleic acid sequence comprising SEQ ID NO:1 or SEQ ID NO:3 and a biosynthesis gene of a fatty acid or lipid metabolism, vector comprising said nucleic acid sequence and host cell comprising said nucleic acid sequence.

Group II, claim(s) 5, drawn to an amino acid sequence encoded by the nucleic acid sequence of Group I.

Group III, claim(s) 7, drawn to a method of generating transgenic plants using the nucleic acid sequence of Group I.

Group IV, claim(s) 15, drawn to a transgenic plant comprising the nucleic acid sequence of Group I.

Group V, claim(s) 16-17, drawn to a method of targeting proteins to liposomes or lipid bodies using the nucleic acid sequence of Group I.

Group VI, claim(s) 18-20, drawn to a method of producing lipids/fatty acids using the nucleic acid sequence of Group I.

Applicants are required to elect either SEQ ID NO:1 or SEQ ID NO:3 and ONE biosynthesis gene of a fatty acid or lipid metabolism. For example, Applicants can elect Group I with a further election of SEQ ID NO:1 and a Δ4-desaturase gene.

This is not an election of species. The nucleic acid sequence construct comprising SEQ ID NO:1 and a biosynthesis gene of a fatty acid or lipid metabolism and a construct comprising SEQ DI NO:3 and a biosynthesis gene of a fatty acid or lipid metabolism are independent chemical entities and require independent search in the patent and non-patent literature. The constructs express proteins having different enzymatic activity and unrelated structure. SEQ ID NO:1 and 3 do not share special technical feature because the encoded proteins have different enzymatic activity and unrelated structure. Further, the fatty acid or lipid metabolism genes recited in claims 2 and 3 do not share a special technical feature because the encoded proteins have different enzymatic activity and different and/or unrelated structure. The desaturase genes recited in claim 3 do not share a special technical feature because the encoded proteins have different function, substrate specificity, and different structure.

The inventions listed as Groups I-VI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking Groups I-VI appears to be that they all relate to a nucleic acid sequence comprising SEQ ID NO:1 or 3 and a biosynthesis gene of a lipid or fatty acid metabolism.

However, Kindl (form PTO-1449 – Naturforsch. C 52, 1997:1-8) teach that a lipoxygenase from *Cucumis sativus* initiates lipid metabolism (abstract). The nucleic acid sequence encoding the lipoxygenase is 100% identical to SEQ ID NO:1.

Murphy (form PTO-1449 – Prog. Lipid Res., 32, 1993:247-280) teach biosynthesis genes of fatty acid/lipid metabolism (pages 248-261). Murphy also teach that plant producing high amounts of lipids are selected to produce agronomically useful oilseed crops (page 247).

Therefore, it would have been obvious to one having ordinary skill in the art to make a nucleic acid sequence comprising the lipoxygenase gene taught by Kindl and other genes involved in fatty acid/lipid metabolism taught by Murphy. The motivation of making the nucleic acid sequence is to create a gene delivery system to increase production of lipids in oilseed crops.

Therefore, the technical feature linking the inventions of Groups I-VI does not constitute a special technical feature as defined by PCT Rule 13.2, as it does not define a contribution over the prior art.

The special technical feature of Group I is a nucleic acid sequence comprising SEQ ID NO:1 or SEQ ID NO:3 and a biosynthesis gene of a fatty acid or lipid metabolism, vector comprising said nucleic acid sequence and host cell comprising said nucleic acid sequence.

The special technical feature of Group II is an amino acid sequence encoded by the nucleic acid sequence of Group I.

The special technical feature of Group III is a method of generating transgenic plants using the nucleic acid sequence of Group I.

The special technical feature of Group IV is a transgenic plant comprising the nucleic acid sequence of Group I.

The special technical feature of Group V is a method of targeting proteins to liposomes or lipid bodies using the nucleic acid sequence of Group I.

The special technical feature of Group VI is a method of producing lipids/fatty acids using the nucleic acid sequence of Group I.

The products of Groups I-II and IV do not share a special technical feature because the products are independent chemical entities and require independent search in the patent and non-patent literature.

Accordingly, Groups I-VI are not so linked by the same or a corresponding special technical feature as to form a single general inventive concept.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

Art Unit: 1652

or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Pak whose telephone number is 571-272-0935. The examiner can normally be reached 6:30 A.M. to 5:00 P.M. Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone numbers for the organization where this application or proceeding is assigned

Art Unit: 1652

are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Yong D. Pak
Patent Examiner



PONNATHAPU ACHUSAMURTHY
SUPERVISORY PATENT EXAMINER
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